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IPS 75-5490
II-B #5

6 November 1970

MEMORANDUM FOR: [redacted] 25X1

SUBJECT : Notes on the Meeting of the [redacted] Steering Committee Meeting of 3 November 1970 25X1

1. The briefing that was to be given [redacted] on the analysis of the coverage of snow fields in the United States has been postponed for presentation in December 1970. 25X1

2. [redacted] was asked to introduce the briefing 25X1
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[redacted] who has a small contract 25X1
with OSP). He stated that [redacted] briefing was to be based on 25X1
photography from Mission 1108-2. There was about 819 feet of SO-242 color film used in the aft-looking camera. SO-360 film was used for duping. The ground resolution was [redacted] He 25X1
mentioned the report that had been issued by the contractor /Report No. 8, KH-4B System Capability, Evaluation of SO-242 Film, ICL-TCS-0001-70/ and which included some of the work the contractor did for three areas in the Tsaidam Basin of China. /The report has excellent examples of the photography./

3. Bill explained that before he had received his [redacted] 25X1
[redacted] He thought that the synoptic view 25X1
obtained from this color photography, even though the resolutions were low, provided an understanding of structural geology that could not possibly be matched in a conventional way.

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NRO review(s) completed.

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4. He then directed his briefing first to the Tsaidam Basin and later to some new investigations which were completed last Saturday for an area in southern USSR and adjoining Afghanistan. He explained that with regard to the Tsaidam Basin study it was necessary to improve collateral map and other information obtained from a variety of sources by utilizing planimetric data obtained from the metric camera KH-4B of Mission 1108-2. Once having a relatively accurate planimetric base for the three areas in the Basin, he studied the photography for the three areas from the SO-242 color film in the aft-looking camera and the 3404 B & W in the forward-looking camera. He explained that each of the areas studied was approximately 2 1/2 degrees in longitude and 1 1/2 degrees in latitude, each covering about 12,000 square miles. With the collateral ground truth information available, he was able to distinguish the various rock types in these areas such as alluvial, sedimentary, metamorphic, and igneous intrusions, as well as the approximate ages of the structures involved.

5. He and one other man in his organization had the tickets that permitted their use of the information. What they did in the studies of these three areas of the Basin took between two and three man-months. By conventional mapping and analysis of an alogous area in the United States it would have taken approximately one man-month per 1,000 square miles. His final product was a geologic map of structures with emphasis on the location of potential petroleum and gas resources. Some are known to be tapped at the present time. He also stated that he could suggest the location of certain metallic minerals of value which should occur along identified faults and along contacts between surrounding rock structures and igneous intrusions.

6. He then proceeded to explain some work that he and his company had recently done with the use of the same KH-4B photography of Southern USSR and adjoining Afghanistan. Color photography proved to be essential in this area. Some ground truth was available partly because of the fact that ARPA had had a survey undertaken under contract for an adjoining area. He again chose four specific areas for study. In each of these there had been heavy folding and reverse faulting of sedimentary structures which might have created traps for potential oil and gas. Two

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sedimentary structures, dipping northwestward, showed up clearly on all color photography, namely the Bukhara limestone and the so-called Bot'dzhuan formation. Having determined the dominant color and nature of these two outcroppings, it was possible to extrapolate the associated rock structures. In his study he may in fact suggest the potential areas for petroleum, gas, and coal and for non-metallic deposits such as sand, gravel, loess, lime, talc, gypsum, etc.

7. [redacted] was greatly impressed by the usefulness of KH-4B color photography and felt strongly that it was a shame to keep it in a covert system. Some of the advantages were the synoptic view provided by the photography, the stereoscopic capability, the availability to non-accessible areas, the relatively high resolution, and the availability of color. He considers this material as a breakthrough in reconnaissance techniques for geologic mapping and exploration, as well as in access to otherwise inaccessible areas. He is completely [redacted] Fred Doyle of USGS asked if this approach to petroleum and gas exploration would be useful in the United States. Bill answered that it would, and at the same time would give his company a competitive advantage, if other companies were not provided with the same type of imagery. He assured all of us that he would not take commercial advantage of having his clearances.

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8. Upon questioning, [redacted] has an index to the Red Dot photography that has been taken over the United States with the use of the Delta III camera using the U-2 as a platform. This Red Dot photography is in many ways similar to the stereo (color and B & W) photography of KH-4B. The Red Dot experimental work is run by Eastman Kodak and closely

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monitored by the NRO Color Task Force. [redacted] and [redacted] are intimately involved and this experimentation has been going on for an extended period. [redacted] thought that it might be possible to arrange to meet some civilian requirements by obtained access for them to the photography and by giving consideration to their needs in future Red Dot experimental work. No commitment was made. In answer to Fred Doyle, it was pointed out that the characteristics of the camera are probably classified SECRET, particularly when related to high-altitude aircraft. The Red Dot photography itself is classified T-KH, but could possibly be sanitized and used on a unclassified basis as has previous U-2 photography covering the United States. No definitive answer was given to the question.

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9. [redacted] then gave a very useful rundown on some of the work of NRO Color Task Force and the CIA Color Working Group. He discussed the SO-242 film, the SO-380/3404 B & W film, the SO-360 reversible color duping film, and several other types of film including inter-negative film. There have been coordinated tests of color film from satellite photography as well as U-2 photography conducted by the Task Force from [redacted] In short he gave what is probably an abbreviated version of his usual briefing. It seemed to be extremely well received by the members of the committee.

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